PART I - SECTION C - DESCRIPTION/SPECIFICATIONS

In addition to the Item Description, Drawing(s) and/or Specification(s) listed below, Preservation/Packaging/Packing and Inspection and Acceptance documents are contained elsewhere herein (Sections D & E respectively).

PRODUCT ENGINEERING REQUIREMENTS

The following Item Description, Drawing(s) and/or Specification(s) represent minimum Government requirements and are applicable to this Procurement.

National Stock Number (NSN): 3416-01-030-8195

LATHE, ENGINE, 13-INCH, CABINET BASE

1. General: This document describes an engine lathe with a 13-inch swing over bed and a cabinet base.

2. Salient Characteristics: The Lathe shall meet or exceed the following characteristics and have at least those features listed herein:

2.1 Design: The lathe shall perform all normal turning, boring, drilling, facing, and threading operations and shall be new and one of the manufacturer's current models and design. The lathe and all components, including the cabinet base, shall be so designed that a drilling, milling, slotting, and grinding attachment (reference Federal Specification OO-M-340) can be readily conjoined to the lathe, and operated, without additional modifications to the lathe, the lathe components, or the attachment. The lathe shall be rigidly designed for mounting in a small truck bed, a mobile van or trailer, an ocean going vessel, or transportable shelters. The lathe shall have the capability to withstand the stresses and strains of mobile field travel and maintain the accuracy tolerances as specified in Table II. The lathe shall be designed and constructed to provide convenient and safe operation for the operator. All lathe parts, which are subjected to wear, breakage, repair or distortion shall be readily accessible for adjustment, repair, or replacement without the use of special tools and fixtures. The lathe shall have a ferrous metal, hinged end gear cover. The end gear cover shall withstand the rigors of field military transportation and shall provide rigid support for the indexing fixture of the milling, drilling, slotting, and grinding attachment.

2.2 Measuring and indicating device calibrations. The US customary system of units (US) or the International System of Units (SI) shall be used in the design and construction of the lathe. In this specification, all measurements, dimensions, sizes, and capacities are given in the US system. The measurements may be converted to the SI system through the use of the conversion factors and methods specified in IEEE 268.

(Continued)

2.3 Dials. Dials shall be graduated in the US and metric SI systems of measurement. Dial graduations, indicating stock removal or tool movement, shall be in increments of not more than 0.001 inch and 0.01mm. Dial graduations shall be easily read from the machine operators normal working position. Graduations shall be permanently and legibly etched or engraved on a contrasting nonglare background. Dials that require more than one revolution to indicate their full range shall be calibrated such that the last dial graduation progresses into and is continuous with the first graduation as the dial is rotated through the zero position for successive revolutions. Dual scale feed adjustment devices shall have independent zero adjustments for the US and Metric graduations on the same devices. Dials shall be accurate indicators for adjustment of tool and lathe component movement.

2.4 Gears. All gears and pinions selected for use in the lathe and its components shall be designed and manufactured to meet or exceed the requirements of AGMA 2000 and 390.03 for the English (US) system or ISO 54 for the metric (SI) system. The gears shall be the proper width and size to transmit full rated torque and horsepower throughout the speed ranges without failure for the expected service life of the machine. All back gears, gears in the headstock area, gears in the quick change gear box, and gears in the drive train shall be steel, hardened to no less than Rockwell C-48.

2.5 Threads. All machined threads shall conform to ASME B1.1 for Unified Inch threads and B1.13M or B1.21M for Metric threads.

2.6 Lubrication. Means shall be provided to ensure adequate lubrication for all moving parts. Recirculating lubrication systems shall include a cleanable or replaceable filter. Each lubrication reservoir shall have means for determining fluid level. All oil holes, grease fittings, and filler caps shall be accessible.

2.7 Controls: All operating controls shall be located convenient to the operator at his normal work station.

2.8 Construction. The lathe shall be constructed of parts which are new, without defects and free of repairs. The structure shall be capable of withstanding all forces encountered during operation of the lathe to its maximum rating and capacity without distortion.

2.9 Interchangeability. To provide for replacement of worn parts, all parts shall be manufactured to definite dimensions and tolerances.

(Continued)

2.10 Safety and health requirements: Covers, guards, or other safety devices shall be provided for all parts of the lathe that present safety hazards. The safety devices shall not interfere with the operation of the lathe. The safety devices shall prevent unintentional contact with the guarded part, and shall be removable to facilitate inspection, maintenance, and repair of the parts. All machine parts, components, mechanisms, and assemblies furnished on the lathe, whether or not specifically required herein, shall comply with all of the requirements of the Code of Federal Regulations (CFR) 29, Labor, Parts 1900 to 1910 and ANSI B11.6 that are designated therein as the responsibility of the machine manufacturer. In the event of a conflict between the requirements of OSHA and ANSI standards, the requirements of OSHA shall apply. All hand wheels and cranks shall automatically disengage when powered travel or feed is engaged.

2.11 Guarding. In addition to the Safety and Health requirements specified in paragraph 2.10., the machine shall be furnished with a full length splash guard, a swing away chuck guard mounted on the headstock, and a transparent chip guard mounted on the carriage to confine flying chips.

2.12 Protective finish. The protective finish, unless otherwise specified, shall be paint. All surfaces to be painted shall, immediately prior to painting, be cleaned and dried and free of all foreign matter. The protecting paint coating shall be at least 2.0 MIL thick. The paint adhesion shall be such that no paint shall be capable of being peeled by fiberglass tape applied over two intersecting cuts of not less than 2 inches to expose the base metal. The surface hardness of the paint shall be between the industrial standards of H to HB pencil lead. Where no protective finish is utilized (such as bedways, machine guide surfaces, etc.) the natural finish of the material, or the finish obtained from heat treatment, is permissible provided the surfaces are free from scale or corrosion.

2.13 Fastening devices. All screws, pins, bolts, and other fasteners shall be installed in a manner to prevent change of tightness. Fastening devices subject to removal or adjustment shall not be swaged, peened, staked, or otherwise permanently installed.

2.14 Dimensions and characteristics. The dimensions and characteristics shown in Table I are the established minimum Government requirements and shall be met or exceeded for the lathe specified herein.

2.15 Overall physical dimension limitations. The lathe, with the cabinet base, shall not exceed an overall length of 68 inches, an overall width of 38 inches, or an overall height of 52 inches. The lathe shall be not less than 25 inches between centers.

PART I - SECTION C DESCRIPTION/SPECIFICATIONS

PRODUCT ENGINEERING REQUIREMENTS

(Continued)

TABLE I. Dimensions and characteristics.
(Dimensions are shown in inches)

CHARACTERISTIC	SIZE
Swing over bed & carriage wings	Not less than 13; not more than 14.5
Swing over cross slide	Not less than 7-3/4
Width of bed	Not less than 8
Distance between centers	Not less than 25
Hole thru headstock spindle	Not less than 1-3/8
Spindle nose, size and type	American Standard D-1 camlock
Number of spindle speed changes	Not less than 12, or infinitely variable
Spindle speed range, revolutions per minute (RPM)	55 or less to 1800 or more
Number of thread & feed changes	Not less than 35
Threads per inch	4 or less to 56 or more
Longitudinal Feed Range, inches per revolution (IPR)	0.001 or less to 0.035 or more
Cross feed range IPR	0.0005 or less to 0.020 or more
Number of thread changes, metric	20 or more
Thread range, lead in millimeters	0.2 or less to 4.0 or more
Carriage bearing length on bed ways	Not less than 11
Width of cross slide	Not less than 6
Cross slide travel	Not less than 7
Compound rest travel	Not less than 3-1/8
Lathe centers, ANSI taper size	No. 3

(Continued)

TABLE I. Dimensions and characteristics (Cont'd)

Tailstock spindle diameter	Not less than 1-9/16
Tailstock set-over	Not less than ½
Tailstock spindle travel	Not less than 4
Tailstock reducing sleeve	MT no. 3 to MT no 2
Chuck, 4-jaw, independent, diameter	Not less than 10
Chuck, 3-jaw, universal, diameter	Not less than 8
Drive plate, diameter	Not less than 6-1/2
Face plate, large diameter	Not less than 12
Steady rest capacity	3/8 to 3
Follow rest capacity	3/8 to 3
Finish of machine ways	Not more than 32 microinch
Main drive motor, HP	Not less than 2

2.16 Cabinet base. A steel cabinet base shall be provided. The base shall be constructed sufficiently strong and rigid to support the lathe in a firm and stationary manner during lathe operations. The cabinet base shall be capable of withstanding the stresses and strains associated with mobile field travel. The cabinet shall be constructed with a chip pan on top and designed for floor mounting. The storage area of the cabinet shall be of sufficient size for storage of all tools, equipment, attachments, accessories, and wrenches furnished with the lathe and shall contain the accessory equipment in such a manner as to prevent damage to the accessory equipment during mobile field travel. Storage areas may be either drawers or compartments or both. All drawers or compartment doors, including, if required, an underneath main drive motor compartment, shall be provided with locks. The same key shall operate all locks of each cabinet, but not be interchangeable with locks of other cabinets. Not less than three keys shall be furnished with each lathe. Inserts or liners shall be durable and fastened in the drawer or on the shelves to retain all tools, equipment, attachments, accessories, and wrenches during mobile field travel. The storage cabinet shall be designed so that when opened, the door shall remain open without the assistance of the operator or other external devices (devices not provided with and integral to the cabinet design).

(Continued)

2.17 Bed. The lathe shall have a bed, which is a one piece ferrous casting (without a removable/ replaceable gap bed insert) with integral cross ribs, and shall have sufficient strength and rigidity to support all of the components in alignment, as specified in Table II, after the lathe has been subjected to the mobile field transport test. The surfaces of the guide ways shall have a hardness of not less than Rockwell C-50. A self contained means of lubrication shall be provided for the guide ways. The lathe shall be designed to utilize a taper attachment. The bed shall have two V-ways and two flat ways or three V-ways and one flat way for guiding and supporting the carriage and tailstock.

2.18 Headstock. A head stock shall be provided with either an infinitely variable speed spindle drive or a spindle drive providing not less than 12 spindle speeds. Speed variations shall be accomplished through the use of mechanical or electrical shifting techniques, or combinations of these methods, which meet the requirements stated herein.

2.18.1 Infinitely variable drive. The infinitely variable speed headstock shall provide spindle speed selections for all speeds within the range of the lathe (see Table I). Speed selections shall be made by suitable controls, such as push buttons or a variable speed selector switch, with infinitely variable speeds. All speed selection options shall include a speed indicator showing actual revolutions per minute. Speed adjustments shall be possible while cutting, to obtain the optimum speed/feed ratio under various cutting conditions. The variable speed headstock shall be designed and constructed to eliminate the need to run the lathe through its speed range to prevent sticking of the spindle.

2.18.2 Twelve-speed drive. A 12-speed headstock drive may consist of either all gears, all belts and pulleys, or any combination of gears, belts, and pulleys, and an infinitely variable drive. Belt and pulley power transmission drives shall incorporate a non-slip design. The 12-speed headstock shall provide a manual speed change system with selected speeds as specified in Table I. The 12 spindle speeds shall be in an approximate geometric progression. The spindle shall operate in both directions of rotation through the entire speed range of the lathe. Headstock drives, which combine pulley and belt drives with gear drives shall have a belt drive in the high speed range and gear drives in the intermediate and low ranges. An identification plate shall indicate shift lever positions for designated spindle speeds. The identification plate shall be readily visible from the operators normal working position. Belt driven headstocks shall have means for changing, adjusting, and maintaining proper belt tension while maintaining spindle alignment or adjustment.

(Continued)

2.18.3 Headstock structure. The headstock shall be semi-permanently affixed to the lathe bed by means of keys or pins and bolts, (an adjustable headstock shall not be acceptable) and shall be oil tight. The spindle shall be supported by tapered roller bearings (see 2.18.7). The headstock shall be constructed to rigidly support the spindle and gear shafts in a secure manner to prevent deflection that would affect work part accuracy under all headstock spindle speeds and full power cutting loads.

2.18.4 Spindle drive gearing. Spindle drive gears shall have a surface hardness of not less than Rockwell C-48. Easy access to the gears in the drive mechanisms shall be provided. During setup operation, the spindle shall be free to rotate manually, and there shall be provisions for retaining the spindle in any desired position to facilitate the mounting or operations of chucks, face plates, and other spindle mounted attachments. Headstock spindle locking devices shall have an interlock safety mechanism to prevent power application while the spindle is locked.

2.18.5 Headstock lubrication system. The headstock shall be provided with a self-contained lubrication system.

2.18.6 Headstock accuracy. The headstock shall meet or exceed the accuracy requirements of Table II.

2.18.7 Headstock spindle. The headstock spindle shall be designed for using draw-in collets, chucks, and face plates, which in turn supports and provides rotation of the work piece. The lathe shall be furnished with a functional spindle brake. The brake shall completely stop the spindle when the control lever is placed in the off position and when the emergency stop is actuated. When actuated, the brake shall slow the spindle rotation from at least 1800 rpm to zero rpm in no more than 5 seconds, while a chuck and workpiece are mounted on the spindle. The spindle shall be supported by tapered roller bearings (see 2.18.3), located in the front and rear positions of the spindle. (Spindle designs incorporating three bearings are acceptable.) Thrust bearings shall have means for adjustment. The spindle nose shall be the D1-4 camlock type as specified in Table I and shall conform to ANSI B5.9. The spindle nose shall provide locating surfaces for lathe centers, face plates and chucks. The inner and outer surfaces of the spindle nose, on which work holding devices are mounted, shall have a surface hardness of not less than Rockwell C-50. The headstock spindle shall meet or exceed the accuracy requirements of Table II.

(Continued)

2.19 Power feed. Power feeds and thread leads shall be provided by a feed rod and a hardened lead screw, through a totally enclosed, quick-change gear box and the geared feed mechanism contained in the carriage apron. The lead screw shall be hardened to not less than Rockwell C-38. The longitudinal feed shall be by rack, mounted on the underside of the front guide ways, and meshing pinions on the apron. The rack and pinion teeth shall be designed to impart the most wear to the component most easily replaced. The longitudinal and cross feeds shall be in both directions of travel, with right and left hand threading capability. A separate feed rod and leadscrew shall be used and the feed motion shall be accomplished without the use of threads to retain threading accuracy. Automatic lubrication shall be provided for the quick-change gear box gearing. A shear pin shall protect the feed mechanism from damage by accidental overload. An interlock shall prevent simultaneous engagement of the thread and controls. A thread and feed chart shall be printed in the American-English language and shall be readily visible from the operator's normal working position to show control settings. The half nut(s) shall be of a compatible material such that the half nut(s) shall wear more quickly than the lead screw.

2.20 Combination US and SI gear box. The lathe shall be equipped with a selective type, combination English and Metric, quick-change gear box to provide a full range of US and SI feeds and threads as specified in Table I, without the use of transposing gears. The lathe shall cut standard inch and metric threads as defined by ASME standards B1.1, B1.13M, and B1.21M. If gear selection is by lever action, the lever shall be metallic, with a chrome plated handle or knob. The cross slide feed screw and the compound slide feed screw shall each be equipped with dials graduated to indicate measurements in both US and SI systems.

2.21 Carriage. The carriage shall support the apron, cross slide and compound rest. The carriage, cross slide, and compound rest shall be accurately fitted, in accordance with Table II, to the mating bedway surfaces, providing smooth, constant feed motion under power and shall have adjustable gibs to permit compensation for wear. A carriage clamping device shall securely lock the carriage in any position along the bed, when cross feeding. A carriage reversing mechanism shall allow feed movement in both directions without changing direction of the headstock spindle rotation. The reversing control shall be easily operated and positive acting, located within easy reach from the operators normal work position. Way wipers shall be provided on the carriage wings to prevent chips and abrasives from entering between the carriage and the bedways. The carriage shall be provided with the necessary means for attaching accessories such as follow rests and a taper attachment.

(Continued)

2.22 Cross slide and compound rest. The cross shall be fitted to the carriage with full length, adjustable gibs to compensate for wear between the saddle cross slide and compound rest ways. The cross slide ways or the carriage ways meeting with the cross slide shall be hardened to not less than Rockwell C-48. A built-in cross feed stop shall permit quick withdrawal of the tool to a stop position and repositioning to the last depth of cut when threading. The compound rest shall consist of a swivel base and a top slide. Top slide and swivel base shall be attached to the cross slide by means of an accurately fitted swivel bearing and with means for securely locking the swivel in any desired position. The compound rest shall swivel through 360 degrees for positioning. The compound rest swivel base shall be graduated in one degree increments, with numbers every 10 degrees, to not less than 90 degrees each side of the zero mark as aligned perpendicular to the bedways. The one degree graduations shall be permanently and legibly stamped, embossed or etched on the outside diameter of the compound swivel base. The top of the compound tool slide shall have a standard size T-slot, meeting the requirements of ANSI B5.1.

2.23 Cross feed screw. Threads of the cross slide and compound rest feed screws shall have a surface hardness of not less than Rockwell C-45. Brass nuts shall be used, and mated, with the hardened feed screws. The cross slide and the top slide feed screw threads shall be Acme or square form and shall be protected from chips and other foreign matter by the construction of the cross slide or by a suitable guard. The cross slide feed screw shall be supported by anti-friction thrust bearings and shall have an adjustment for backlash. The feed screws shall be fitted with direct feeding micrometer dials graduated in increments of not more than 0.001 inch 0.02 mm and numbered each 10 graduations. The feed screw micrometer dials shall be accurate indicators of tool movement and stock removal.

2.24 Apron. The apron shall contain the feed mechanism, threading mechanism, operating controls, and carriage components. The apron shall be double wall construction providing inboard and outboard supports for gear shafts and studs. Gearing in the apron shall provide hand power in both hand and power operation in both the longitudinal and cross feed directions. A selector lever shall be provided on the front of the apron for engaging the cross and longitudinal feeds. An interlock shall be incorporated in the apron to prevent engagement of the feed and half nut at the same time. The handwheel shall automatically disengage to assure nonrotation while the carriage is under power. Rotating shafts shall be supported at both ends by ball or roller bearings. The reversing control for the spindle shall be located on the apron. A lock shall be provided to prevent apron movement during facing and cutoff operations

(Continued)

2.25 Leadscrew reverse. A leadscrew reverse mechanism shall be provided for thread cutting, the operator's leadscrew control device shall be conveniently located to the operator's normal work station. The lathe's leadscrew reverse device and mechanism shall accommodate reversing the direction of the carriage movement without disengaging the leadscrew half-nut, and without reversing or stopping the spindle.

2.26 Tailstock. The lathe shall have a tailstock , which is accurately fitted to the bedways of the lathe. The tailstock shall be easily moved along the bedways and shall have a quick acting clamp for locking the tailstock in all locations along the bedways. The tailstock shall meet the alignment and accuracy requirements stated in Table II. The tailstock shall have alignment markings, which show proper center position for straight turning, and for measurement of the setover distance, when turning tapers without the aid of a taper attachment. The amount of setover shall conform to the requirements of Table I. The alignment markings shall have a zero point, shall extend each side of zero to the setover distance specified in Table I, and shall be marked in increments not greater than 1/16 of an inch. A means shall be provided to lock the tailstock spindle in place at any point of spindle travel. The tailstock spindle lock shall prevent movement between the tailstock spindle and the tailstock housing. The tailstock housing lock shall prevent movement between the tailstock and the bedway. Tailstock spindle travel shall be accomplished by a hand wheel, without jamming, when either fully extended or fully retracted. The total distance, between the fully extended and fully retracted positions of the tailstock spindle shall meet the travel requirements of Table I. The inside of the spindle shall be bored to hold the tailstock center, drill chuck, or other tapered, tang type tools. These tang type tools shall conform to the applicable specifications of ANSI B.5 10 and Table I. The tailstock spindle shall be hardened to a hardness of not less than Rockwell C-48 and shall be graduated in increments not greater than 1/16 inch for measuring spindle travel. The lathe design shall provide for the lubrication of the surface between the tailstock and the tailstock bedways. The design shall also provide for lubrication between the tail stock spindle and the tailstock housing.

2.27 Electrical system. The electrical system shall conform to the applicable requirements of the National Fire Protection Association NFPA-70 and NFPA-79. A disconnect switch shall be provided to disengage all incoming power and shall be separate from the machine's on/off switch. The machine shall be capable of operating on 120/240 volts, single phase, 50/60 Hertz power and shall be initially wired to operate on 120 volts. An identified terminal shall be provided, suitable for connecting the proper size grounding conductor in accordance with the requirements for the specified power source.

(Continued)

2.28 Motor. The main drive motor shall be not less than two horsepower, with permanently sealed ball or roller bearings rated for continuous duty operation and shall meet the requirements for a drip-proof enclosure. Motors shall conform to the requirements of the National Electrical Manufacturers Association (NEMA) Standard MG-1.

2.29 Identification of electrical circuits. The conductors in the electrical system shall be identified at each termination to correspond with the identification on the wiring diagrams and schematics. Conductors shall be color coded and identified in accordance with NFPA-79. The electrical systems and diagrams/schematics provided with each lathe shall be an exact duplication of the electrical system and wiring in the lathe. Diagrams/schematics shall clearly identify the individual, point-to-point, wire and wire termination point location in the electrical system.

2.30 Electric power supply cable. An electrical power supply power cable shall be installed on each machine. The electrical power supply cable shall be not less than 10 feet in length and shall terminate in not less than one inch of tinned wire, without a receptacle plug. The electrical supply cable shall include proper sheathing/covering in accordance with the National Electrical Code (NEC), NFPA-70, and OSHA. The electrical power supply cable shall have a voltage/potential and ampere/current carrying capacity exceeding that required by the electric power consuming devices, including electric motors of the lathe in accordance with the NEC.

2.31 High voltage. The entire electrical system of the lathe shall withstand, without damage, malfunction, breakdown, arcing, surface or air discharge, at least 2500 volts peak, 60 Hertz, sinusoidal wave electrical energy at standard temperature and pressure. The electrical energy shall be applied instantaneously at full voltage and shall be maintained for at least 15 seconds. Each circuit shall be isolated from other circuits and all circuits shall be isolated from electrical ground. Solid state control components may be damaged as a result of high voltage and is not cause for rejection. Damage to solid state control components may be avoided by wiring around or by-passing them, terminal to terminal. No arcing or discharge from solid state control components is acceptable.

2.32 Accuracy and alignment tolerances. The lathe shall be rigidly constructed and shall maintain the accuracy and alignment tolerances as specified in Table II and as explained and diagramed in ISO 1708, after being subjected to the mobile field transportation simulation tests. Testing for the face plate and chucks is described and diagramed in ANSI B5.16.

(Continued)

TABLE II. Accuracies.

REQUIREMENTS	TOLERANCE
Bed (Verification of Leveling of Slide ways)	
Longitudinal Verification (In vertical Plane)	0.0008" (Convex)
Local Tolerance	0.0003"/10"
Transverse Verification (In Vertical Plane)	0.0008"/20"
Carriage (Straightness of Movement in Horizontal Plane)	0.0008"
Parallelism of Tailstock to Carriage Movement	
In the Horizontal Plane	0.0012"
In the Vertical Plane	0.0012"
Local Tolerance (see note 1)	0.0012"
Headstock Spindle	
Periodic axial slip	0.0006"
Camming (see note 2) of the face Plate Resting Surface	0.0008"
Runout of Spindle Nose Centering Sleeve	0.0006"
Runout of Axis Center	
At the Spindle nose of the Housing	0.0004"
At 12 inches from the Spindle Nose	0.0008"
Parallelism of Spindle Axis to Carriage Longitudinal Movement on a length 12 inches	
In the Horizontal Plane	0.0006" Frontwards
In the Vertical Plane	0.0008" Upwards
Runout of Center	0.0006"

(Continued)

TABLE II. Accuracies. (Con'd)

Tailstock	
Parallelism of the Axis of the Outside of Sleeve to Carriage Movement at 4 inches	
In the Horizontal Plane	0.0006" Frontwards
In the Vertical Plane	0.0008" Upwards
Parallelism of Taper Bore of Sleeve to Carriage Movement at 12 inches	
In the Horizontal Plane	0.0012" Frontwards
In the Vertical Plane	0.0012" Upwards
Centers (Difference of height between Headstock and Tailstock Centers)	0.0016"
Upper Slide (Parallelism of the Slide Longitudinal Movement to the Spindle Axis)	0.0016"/12"
Cross Slide (Squareness of the Transverse Movement of the Slide to the Spindle Axis)	0.0008"/12" at 90 degrees
Leadscrew	
Periodic Axial Slip	0.0006"
Cumulative Error of the leadscrew	
For any Measured Length of 12 inches	0.0016"
For any Measured Length of 2-1/2 or 3 inches	0.0006"
Face Plate Runout,	
On Outside Diameter	0 to 0.001"
On Face at Nominal Diameter	0 to 0.0015"

(Continued)

TABLE II. Accuracies. (Con'd)

Three-Jaw Chuck Runout,	
Face and Periphery	0.0006"
Face of Steps	0.0008"
Bar test 3 inches from End of Jaw with the Test Bar Diameter the same as the Spindle Hole	0.0012"
Four-Jaw Chuck Runout,	
Face and Periphery	0.0006"
Face of Steps	0.0008"
Bar test 3 inches from End of Jaw with the Test Bar Diameter the same as the Spindle Hole	0.0012"
Collet Chuck, Runout, 1 inch from Collet Chuck	0 to 0.0008"

Note 1: A general discussion of local tolerances is provided in paragraph 2.322.4 of ISO 230, Part 1.
Note 2: Camming is defined in ISO 230, Part 1, Paragraph 5.63.

2.33 Performance. The lathes, its components, operator's controls, equipment, and safety devices shall function properly when meeting or exceeding the following specified requirements.

2.33.1 Round rod turning. The lathe shall develop the power required to perform rough and finish cutting operations under the conditions stated herein. The turning operation shall be performed on a round, low carbon, steel (1020) bar, no less than 2.00 inches in diameter, no less than 6.00 inches long, and mounted in the 3-jaw chuck supplied with the lathe.

2.33.1.1 Rough cutting. The rough cut shall be no less than 0.040 inches deep and no less than 3.00 inches long. The cut shall be made at a feed rate of not less than 0.010 inches per revolution at a spindle speed of not less than 700 revolutions per minute (rpm). The rough turned diameter shall show no evidence of chatter and shall meet a total tolerance requirement of 0.0005 inches or less for both out-of-round and taper per foot.

(Continued)

2.33.1.2 Finish cutting. Finish cutting operations shall be performed on the same steel bar as the rough cut. The finish cut shall be no less than 0.020 inches deep and no less than 3.00 inches long. The finish cut shall be made at a feed rate of not less than 0.005 inches per revolution at a cutting speed of not less than 1000 rpm. The finish of the machined diameter shall be no less than 63 micro inches aa.

2.33.2 Cylindrical turning. The lathe shall machine cylindrical diameters, on a low-carbon, steel (1020) bar, no less than 2.00 inches in diameter and no less than 16 inches long. The bar shall be held in the 4-jaw chuck and be supported by a live center. The lathe shall machine no less than three diameters on the bar, as illustrated in test P1 of ISO Standard 1708. The L dimension of test P1 shall be no less than 12 inches. The machined diameter shall be no less than 0.250 inches less than the D diameter. The test piece shall be machined at a spindle speed of not less than 700 revolutions per minute, a cutting depth of no less than 0.020 inches, and a feed rate of not less than 0.005 inches per revolution. A single point carbide cutting tool shall be used. The variation in the machined diameter, at the tailstock end of the test piece, shall be not greater than 0.00025 inches. No less than four readings shall be taken. See clause 14.3 of ISO Standard 1101 for a definition of circularity tolerance. The variation between machine diameters at either end of the piece shall be not greater than 0.0005 inches, measured in a single axial plane. Any taper noticed in the test piece shall have the major diameter near the headstock end of the test piece. The general testing guidance provided in ISO 230/1, classes 3.1 (Installation of the machine before test), 3.22 (Temperature condition of certain components before test), 4.1 (Testing), and 4.2 (Checking of workpieces in practical tests), is applicable to this requirement. The lathe shall machine a finish cut across the collars of the test piece machined as stated herein. The across-the-collars machine cut shall be made at a lathe spindle speed of no less than 1500 rpm, a cutting depth of no less than 0.002 inches, and a feed rate of no less than 0.002 inches per revolution. The cut shall be made with a single point carbide cutting tool. The variation in the three machined collar diameters shall be not greater than 0.0004 inches. The finish cut shall have a surface finish of no less than 20 micro inches aa.

2.33.3 Threading. The lathe shall machine threads on a steel test bar. Two threads, at least four inches long, shall be cut, a ½-13 UNC thread and a ½-32UN thread per ASME B1.1. the machined threads shall meet the size and shape requirements of ASME B1.1.

2.34 Equipment. The following attachments and accessories shall be supplied with the lathe and shall all be capable of operating at full load and the highest speed capabilities of the lathe.

2.34.1 Thread chasing dial. The thread chasing dial, engaging the leadscrew, shall be attached to the carriage apron. The thread chasing dial shall be graduated to indicate the half nut engaging positions when threading inch threads.

2.34.2 Drive plate. The drive plate shall be of steel, for mounting on the spindle nose, and shall have not less than one radial slot for driving a lathe dog. The drive plate shall be not less than 6-1/2 inches in diameter.

2.34.3 Center sleeve. One headstock center sleeve shall be provided for adapting the taper in the spindle nose to the taper of the headstock spindle center provided. Concentricity shall be within 0.0002 inches total indicator reading. Tapers shall be in accordance with ANSI B5.10 for selfholding tapers.

2.34.4 Lathe centers. Two lathe centers shall be furnished, one headstock spindle center and one tailstock spindle center. All centers shall conform to ANSI B5.10. The centers shall be hardened to Rockwell C-62 to C-68 and ground to within 0.0002 inch total indicator reading for concentricity.

2.34.5 Quick change tool post. A quick change tool post, with sliding tapered gibs, shall be provided with the lathe. Each tool post shall have sliding gibs for two tool holders. The tool post shall mount on the T-slot of the lathe tool slide and shall have means to extend the gibs, tightening them into the mating slots of the tool holder. Means shall also be provided to tighten the tool post in the lathe T-slot. The tool post shall be manufactured from steel.

2.34.6 Face plate, large. The large face plate shall be of steel, of ribbed construction and fitted to the spindle nose. The face plate shall have an outside diameter of not less than 12 inches and shall have four or more T-slots in accordance with ANSI B5.1 for through slots.

2.34.7 Indicator carriage stop. The carriage shall have an indicator dial or micrometer graduated in increments of not less than 0.001 inches. The carriage stop shall include an adjustable stop rod for accurate carriage positioning.

2.34.8 Chuck, 4-jaw, independent. The chuck body shall be steel and shall fit to the spindle nose without adapters other than as part of the chuck. Reversible step jaws, with adjusting screws and wrench, shall be included with each chuck. All working parts of the chuck shall be heat-treated. The total indicator reading on the periphery of the chuck, face of the chuck body, and the face of the jaw steps shall be in accordance with the requirements of Table II and ANSI B5.8. The chuck shall be of medium duty and shall have an outside diameter of not less than 10 inches. A self ejecting chuck key shall be provided with each chuck. The chuck shall be of a suitable material and construction to operate and function at spindle speeds up to the lathe's highest rated rpms.

(Continued)

2.34.9 Chuck, three-jaw, universal. The chuck shall be steel, universal, geared, and self-centering. All working parts shall be heat-treated. Run out of the chuck periphery, face of the body, and jaw steps shall be in accordance with the requirements of Table II and ANSI B5.8. The chuck shall be of medium duty and shall fit the spindle nose without the use of adapters. The universal three-jaw chuck shall have an outside diameter of not less than eight inches. A self-ejecting chuck key shall be provided with each chuck. The chuck shall be of suitable material and constructed to operate at spindle speeds up to the lathe's highest rated RPM.

2.34.10 Spindle nose collet chuck. The collet chuck shall mount directly on the spindle nose of the lathe. The chuck shall be of the draw-bar type, operated from the back of the headstock, and shall be of hardened and ground steel construction. The collets shall be of the Hardinge 5C type, manufactured from alloy steel. A complete set of 17 collets shall be furnished, covering a range of 1/16 inch to 1-1/16 inch, in increments of 1/16 inch. The collets shall be boxed in a suitable container. The spindle nose collet chuck shall meet or exceed the accuracy requirements of Table II.

2.34.11 Steady rest. The steady rest shall be fitted to the ways of the lathe. The steady rest shall be the hinged type with three adjustable jaws. Adjusting and locking screws shall be furnished. Means shall be provided to clamp the steady rest to the bed ways.

2.34.12 Follow rest. One follow rest, arranged for quick attachment and removal, shall be provided with each lathe. The follow rest shall be equipped with two jaws, each with locking and adjusting screws.

2.34.13 Work light. The work light shall be mounted on the lathe. The work light shall have an adjustable or flexible arm and shall take a lamp of not less than 100 WATTS.

2.34.14 Cross feed stop. The cross feed stop shall be a single or multiple stop fitted to the cross feed to permit quick retracting of the tool from the cut, when threading, and returning the tool to the previous setting to feed into the next depth of cut. The cross feed stop shall be designed to permit normal use of the cross feed screw, when the stop is not in use. The cross feed stop shall have a repeatability accuracy of not more than 0.0025 inches. The cross feed stop shall be operable from the front of the machine, in the operators normal working position.

2.34.15 Drill chuck. The drill chuck shall be the key type design. The drill shall have ½ inch capacity and shall be capable of holding a drill as small as no. 70 (0.028). The drill chuck shall mount in the tailstock spindle of the lathe and shall be furnished complete with key and mounting arbors of the proper size for the tailstock spindle.

(Continued)

2.34.16 Center, tailstock, live. The live center shall be the ball bearing type, which mounts in the lathe tailstock spindle. The live center shall be hardened and ground to no less than Rockwell C-50.

2.34.17 Center, tailstock, live, Pipe. The pipe live center shall be the ball bearing type, which mounts in the lathe tailstock. The center shall have a three inch inside diameter pipe capacity. The pipe live center shall be hardened and ground to not less than Rockwell C-50.

2.34.18 Dog set, lathe. The set shall consist of six bent, clamp type, lathe dogs, one each of the following capacities: ½ inch, 3/4 inch, 1 inch, 1-1/4 inch, 1-1/2 inch, and 2 inch. The 2-inch capacity lathe dog shall accommodate stock diameters of 7/8 to 2 inches and shall be the double screw type.

2.34.19 Lathe tool holder sets. Lathe tool holders, as required herein, shall be provided with each lathe. The holders shall mate with the tool post specified in 2.34.5 and shall accommodate the tooling specified in 2.34.19.1 thru 2.34.19.5. The tool holder, while mounted in the tool posts, shall meet or exceed the performance requirements of 2.33.

2.34.19.1 Knurling tool. The knurling tools furnished shall have a diamond pattern in fine, medium, and coarse knurls.

2.34.19.2 Cut-off tool. Cut-off tools, fitting the supplied holders, shall be furnished. Six high speed steel (HSS) tools or bits are required.

2.34.19.3 Turning tool. High speed turning tools, fitting the supplied holders, shall be furnished. Six HSS tools or bits are required.

2.34.19.4 Boring bars. The boring bars shall have one 90 degree square tool bit on one end and one 45 degree square tool bit on the other end. The tool bits shall be no less than 3/16 inch square. Six HSS boring bits shall be furnished with each bar.

2.34.19.5 Threading cutter. The threading cutter shall be a 60 degree, HSS tool bit.

(Continued)

2.34.20 Taper attachment. The taper attachment shall be a telescoping screw type for mounting in any working position on the rear of the lathe bed. It shall be graduated for setting in both degrees and inches of taper per foot. Turning capacity shall be not less than 9 inches in length in one setting and 16 degrees included angle. The attachment shall not interfere with the normal lathe operations when not in use. The taper attachment shall be rigid enough to limit tool deflection to not more than 0.0008 inches over a length of 9 inches when the attachment is being used to remove a 0.062 inch thickness of material. Angular settings shall be clearly and legibly marked in one degree increments with numeric identification every fifth degree.

2.35 Marking on plates and charts. All words on plates and charts shall be in the English Language. Characters shall be engraved, etched, embossed, or stamped on a contrasting background on a corrosion resistant, metallic composition type plate and shall be securely attached to each lathe in a location visually convenient to the machine operator's normal work station. All plates shall be permanently secured to the lathe with fasteners such as screws, bolts, and rivets.

2.36 Lubrication chart or plate. A corrosion-resistant chart or plate shall be permanently and securely attached to each machine. The plate shall contain the following information:

Points of lubrication application
Servicing interval
Type of lubricant
Viscosity

2.37 Nameplate. The name plate and other information plates can be incorporated into one or more plates at the manufacturer's option. The name plate shall include the following information:

Nomenclature
Manufacturer's name
Manufacturer's model designation
Manufacturer's serial number
Power input (volts, total amps, phase, frequency)
Contract Number or Order Number
National Stock Number or Plant Equipment Code
Date of manufacture

(Continued)

2.38 Instruction plates. Instruction plates shall be clear and concise in their meaning and application, with a special emphasis on removing any ambiguous terminology, which may confuse or misdirect the machine operator as to the lathes functions, operations, or capacities. All instruction plates on the lathe shall be located so that the operator can readily receive (read) the necessary operational instructions from his/her normal operating position.

3. REGULATORY REQUIREMENTS.

The offeror/contractor is encouraged to use recovered materials to the maximum extent practical, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

4. QUALITY ASSURANCE PROVISIONS.

4.1 Product conformance. The product provided shall meet the salient characteristics stated herein, conform to the producer's own drawings, specifications, standards, and quality assurance practices. The government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

4.2 Quality Assurance Engineering Requirements.

4.2.1 The Contractor shall certify that the offered Lathe meets or exceeds the special requirements listed below. Failure to meet the specified test for the indicated feature shall be cause for rejection.

4.2.1.1 The special hardness requirements for specific lathe components, as specified herein. A Rockwell C hardness test shall be performed on the lathe components, or test samples processed concurrently with the components. A Certificate of Conformance (COC) may be accepted for a component in lieu of the test, provided the COC is signed by a responsible officer of the original equipment manufacturer of that component.

4.2.1.2 The leadscrew "reverse" feature. With the lathe in a thread cutting mode, cycle the direction of the carriage using the leadscrew reverse device and verify the completeness of this operation without disengaging the leadscrew half-nut or without reversing or stopping the spindle.

(Continued)

4.2.1.3 An automatically actuated spindle brake. Operate the spindle at least 1800 rpm. Place the control lever in the off position, stopping the spindle. Increase the spindle speed to at least 1800 rpm. Actuate the emergency stop. When the control lever is placed in the off position and when the emergency stop is actuated, the spindle brake shall slow the spindle rotation from at least 1800 rpm to 0 rpm in no more than 5 seconds.

4.2.1.4 The safety guarding requirement, including a full length splash guard, a chuck guard, and a transparent chip guard. Visually examine the lathe as to the form, fit and function of the full length splash guard, the swing way chuck guard and the transparent chip guard. Verify its completeness of manufacture and freedom from identified defects. The examination may be applied at the earliest practical point in manufacture at which it is feasible to inspect for conformance without risk of change in the characteristics of subsequent operations.

4.2.1.5 A cabinet base. Visually examine the lathe as to the form, fit and function of its cabinet base. Verify that the storage space is adequate to store all accessory equipment furnished with the lathe with all storage areas lockable with the same key, but the key may not be interchangeable with locks of other cabinets. The examination may be applied at the earliest practical point in manufacture at which it is feasible to inspect for conformance without risk of change in the characteristics of subsequent operations.

4.2.1.6 Compatibility with a specific Milling, Drilling, Slotting, and grinding attachment. Verify that drilling, milling, slotting, and grinding attachments (reference Federal Specification OO-M-340) can be readily conjoined to the lathe and all its components, including the cabinet base, and operated without any modifications to the lathe or its components.

4.3 The Contractor shall have provided the precise machine specified herein during the last 10 years or can provide acceptable test documentation, proving that their offered machine complies with all solicitation requirements.

5. Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order. When actual packaging of material is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packing activity.

6. NOTES.

6.1 The following specifications and standards form a part of this document to the extent specified herein:

INSTITUTION OF ELECTRICAL & ELECTRONICS ENGINEERS

IEEE 268 - Instrumentation & Control Systems of Units & Conversion Charts

(Application for copies should be addressed to the Institute of Electronic Engineers. Inc., 345 East 47th Street, New York, NY 19917.)

AMERICAN GEAR MANUFACTURERS' ASSOCIATION (AGMA)

AGMA 390.03a - Gear Handbook - Gear Classification, Materials and Measuring Methods for Bevel, Hypoid, Fine Pitch, Wormgearing and Racks Only as Unassembled Gears
AGMA 2000 - Gear Classification and Inspection Handbook

(Application for copies should be addressed to the American Gear Manufacturers' Association, Suite 201, Alexandria, VA 2231

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO 54 - Cylindrical Gear for General Engineering and for Heavy Engineering Modules
ISO 230-1 - Test Code for Machine Tools - Part 1: Geometric Accuracy of Machines Operating Under No-Load or Finishing Conditions
ISO 1708 - Acceptance Conditions for General Purpose Parallel Lathes - Testing of the Accuracy

(Application for copies should be addressed to the American National Standards Institute, 11 West 42nd, New York, NY 10036.)

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

ASME B1.1 - Unified Inch Screw Threads (UN and UNR Thread Form)
ASME B1.13M - Metric Screw Threads - M Profile
ASME B1.21M - Metric Screw Threads - MJ Profile R

(Application for copies should be addressed to the American Society of Mechanical Engineers, United Engineering Center, 345 E. 47th Street, New York, NY 10017.)

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI B5.1	- T-Slots - Their Bolts, Nuts, Tongues, and Cutters
ANSI B5.8	- Chucks and Chuck Jaws
ANSI B5.9	- Spindle Noses for Tool Room Lathes, Engine Lathes, Turret Lathes, and Automatic Lathes
ANSI B5.10	- Machine Tapers
ANSI B5.16	- Accuracy of Engine and Tool Room Lathes
ANSI B11.6	- Machine Tools - Lathes - Safety Requirements for Construction, Care, and Use

(Application for copies should be addressed to the American National Standards Institute, 11 West 42nd Street, New York, NY 10036.)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	- National Electrical Code
NFPA 79	- Electrical Standard for Metalworking Machine Tools and Plastics Machinery

(Application for copies should be addressed to the National Fire Protection Association, Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.)

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

MG-1	- Motors and Generators

(Application for copies should be addressed to the National Electric Manufacturers Association, 2101 L Street, NW Suite 300, Washington, D.C. 20037.)

Specifications and Standards referenced in the above cited applicable document(s) (drawings, parts lists, specifications) shall be the effective issue or revision in effect as listed in the Department of Defense Index of Specifications and Standards (DODISS) dated 1 July 96 and the Supplement dated 1 May 97.

PART 1 SECTION D

PACKAGING

NSN: 3416-01-030-8195
ITEM: Lathe, Engine, 13 inch swing, cabinet base

Preservation/Packaging/Packing shall be in accordance with ASTM-D-3951 plus the additional requirements stated below. The unit pack quantity shall be one (1) each.

Additional Requirements:

Disassembly shall be held to a minimum.

Components parts, disassembled parts, attachments, accessories and maintenance tools of this lathe shall be cleaned, dried, preserved, packaged and packed like the basic lathe. The machine shall be free from all foreign matter (applied preservatives are not considered foreign matter). The cleaning, drying, preservation and packing processes shall be compatible with each other, shall not accelerate corrosion or be detrimental to the substrate.

Gages, dial indicators, bedways, machine guide surfaces, cross slides, compound rest, the carriage and any other measuring and indicating devices shall be protected from bumping, scratching, jarring or anything that will cause physical or functional damage or maladjustment.

The electrics, i.e., motor junction boxes, cabling, printed circuit boards shall be protected against the entry of any foreign matter, and protected with a preservative that is not harmful to them.

Openings in the lathe and its accessories shall be protected against the entry of any foreign matter.

There shall be no leaks of any kind from the fluid reservoirs, or connecting tubing when filled with their normal operating fluid.

Movable parts on the machine shall be immobilized.

PRON: J56A3C44M1M1

PART 1 SECTION D (Con't)

PACKAGING

NSN: 3416-01-030-8195
ITEM: Lathe, Engine, 13 inch swing, cabinet base

The lathe, its disassembled parts, component parts, accessories and supplied tools shall be packed in a fully enclosed wooden box with forklift capabilities. The placement of the lathe and its parts in the shipping container shall not be a cause for scratching, denting, galvanic corrosion or damage to the substrate of any item. Each shipping container shall contain only one lathe with all parts, accessories and supplied tools. The arrangement of contents, cushioning, anchoring, blocking and bracing shall be such as to prevent any physical or functional damage when the lathe is subjected to air, sea, rail or truck transport, forklift handling, tipping, bumping or falling. The materials used in the anchoring, blocking, bracing and cushioning shall not promote corrosion or be detrimental to the substrate.

If oak or chestnut wood products are used in the performance of this contract, these wood or wood products must be free of all bark.

Workmanship shall be such that when proper procedure is followed, materials and equipment being processed will be provided the maximum protection against corrosion, deterioration and be suitable for storage to the level of packaging specified

Unless otherwise specified herein, shipments to the same destination of identical items having a total packaged displacement exceeding 50 cubic feet shall be palletized unless forklift handling features such as skids, are included on containers.

Marking Requirements:

Container markings shall be in capital letters of equal height, shall be proportionate to the available marking space and shall contain the following information:

Unit packs and intermediate containers shall contain the following information in the order listed:

a. NSN/NATO stock number.
b. CAGE code of the company awarded the contract and part number of the item as specified in the contract.
c. Quantity and unit of issue.
d. Level of protection and date packed.
e. Contract or purchase order number.

PART 1 SECTION D (Con't)

PACKAGING

NSN: 3416-01-030-8195
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Markings on the shipping container shall be grouped into three distinct categories, identification markings, contract data markings and address markings.

Identification markings:

a. NSN/NATO stock number.
b. CAGE code of the company awarded the contract and part number of the item as specified in the contract.
c. Quantity and unit of issue.
d. Level of protection and date packed.
e. Gross weight and cube.
f. Item description or nomenclature.

Contract Data Marking:

The contract data marking, placed under the identification markings, shall consist of the contract or purchase order number.

Address Markings:

The address markings, placed to the right of the identification and contract data markings (if space is available) shall consist of the following information in the order shown.

a. Control number or reference number (as a minimum the Transportation Control Number (TCN) shall be provided as the single standard shipment identification number).
b. FROM MILITARY: Name and address of consignor (DOD Activity Address Code and in the clear address if applicable).
   FROM CONTRACTOR: Name and address of the contractor (including nine digit zip code). When supplies are shipped from a subcontractor, only the name and address of the company awarded the contract shall be used.
c. TO: Name and address of consignee (DOD Activity Address Code (DODAAC) and in the clear address if applicable).
d. Piece number and total pieces (if more than one shipping container is used for the order).

PRON: J56A3C44M1M1

PART 1 SECTION D (Con't)

PACKAGING

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ITEM: Lathe, Engine, 13 inch swing, cabinet base

In addition to the above information, the NSN/NATO stock number shall be bar coded on the unit packs and intermediate containers. The following shall be bar coded on the shipping container. All bar coding shall use the 3 of 9 format in accordance with ANSI MH10.8m.

a. NSN/NATO stock number.
b. Contract or order number.
c. CAGE code of the company awarded the contract.
d. Contract Line Item Number (CLIN) if applicable.

PRON: J56A3C44M1M1

DEFENSE PRIORITIES AND ALLOCATIONS SYSTEM (15 CFR 700)

GENERAL

As a defense contractor for the Department of the Army, you are required to follow the provisions of the Defense Priorities and Allocations System (DPAS) and the other applicable regulations and orders of the Department of Commerce (DOC) in obtaining products, services, and materials needed to fill this order. (Ref General Provisions, FAR 52.211-15.)

The rules relating to the status, placement, acceptance, and treatment of priority ratings and rated orders are contained in DPAS. There are two types of priority ratings: DO ratings and DX ratings. A priority rating consists of either of these rating symbols and one of program identification. For example, DO-A6 identifies the program as ammunition (A6) and gives the contract a DO rating. DX-A5 identifies the program as weapons (A5) and gives the contract a DX rating. The program identification symbol (A5, A6, etc.) does not affect the preferential status of the rating on the applicable contract.

Use of the priorities system is appropriate during the solicitation phase in aligning potential suppliers/subcontractors. It is, therefore, imperative that prospective bidders/offerors identify each request for quotations issued to suppliers as a defense order with the applicable priority rating that would be assigned.

SEQUENCE OF FILLING RATED ORDERS

Acceptance of a rated order requires scheduling of operations to fill each rated order by the required delivery or performance date, regardless of the sequence in which the orders were received. If this is not possible, precedence must be given as follows:

a. DX rated orders take precedence over DO rated orders, and DO rated orders take precedence over unrated orders. All DX ratings have equal preferential status; all DO ratings have equal preferential status.

b. A conflict between rated orders of equal priority status: precedence shall be given to the order which was received first.

c. A conflict between rated orders of equal priority status received on the same day: precedence shall be given to the order which has the earliest required delivery or performance date.

MANDATORY USE OF RATINGS

It is mandatory that prime contractors receiving rated orders extend the rating to their subcontractors and suppliers for the materials necessary to complete the rated contract. The priority rating appearing in the contract shall be used when placing subcontracts and purchase orders for production materials, components and/or items (e.g., special jigs, dies, fixtures, and inspection gauges) required for performance on a rated contract. The contractor shall advise subcontractors (first, second, or subsequent tier) to extend the rating and program identification when placing subcontracts and purchase orders. A rated order must contain the following:

a. The priority rating - which consists of the prefix DO or DX, followed by the program identification, A6, B9, C3, or C9, etc.

b. A statement that reads in substance: This is a rated order certified for national defense use, and you are required to follow all the provisions of the Defense Priorities and Allocations System regulation (15 CRF 700).

c. The signature of an authorized official of the firm placing the order.

d. The delivery date or dates required.

PRIORITIES ASSISTANCE

The priorities provided by DPAS may not always prove effective and compliance with the system by material suppliers may be lacking. In order to aid defense contractors in overcoming such production bottlenecks, DOC provides special assistance. When a defense contractor determines that its supplier's delivery promises will not permit the maintenance of its contract schedule, the contractor may then submit a Request for Special Priorities Assistance on Form BXA-999. Form BXA-999 should be filed through the Administrative Contracting Officer (ACO) administering the contract for processing to Commander, Industrial Operations Command, ATTN: AMSIO-IOI-L, Rock Island, IL 61299-6000. Furnish one advance copy of the Form BXA-999 to AMSIO-IOI-L.

PRIORITY RATING FOR PRODUCTION EQUIPMENT

A priority rating for the purchase of contractor-owned production equipment in support of a rated contract may be authorized to either the prime contractor or its subcontractors. Rating authority requires submittal of a DD Form 691, Application for Production Equipment, through the Administrative Contracting Officer (ACO) administering the contract for processing to Commander, Industrial Operations Command, ATTN: AMSIO-IOI-L, Rock Island, IL 61299-6000. Furnish one advance copy of the DD Form 691 to AMSIO-IOI-L.

INFORMATION

The contractor may request assistance in using the forms BXA-999, Request for Special Priorities Assistance and DD Form 691, Application for Rating for Production Equipment from Commander, Industrial Operations Command, ATTN: AMSIO-IOI-L, Rock Island, IL 61299-6000 (e-mail dpas@ria-emh2.army.mil).

Copies of a booklet, "Defense Priorities and Allocations System," and a complete list of the regulations, orders, and directions currently in effect, may be obtained from district offices of the U.S. Department of Commerce or from Publications Sales Branch, U.S. Department of Commerce, Washington, D.C. 20230. Copies of DPAS may also be obtained from Commander, Industrial Operations Command, ATTN: AMSIO-IOI-L, Rock Island, IL 61299-6000 (e-mail dpas@ria-emh2.army.mil).